

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A computer program product, tangibly embodied in a machine-readable storage device ~~an information carrier~~, the computer program product comprising instructions operable to cause data processing apparatus to perform operations comprising:

- providing a server-side framework to an application, the server-side framework being external to the application, the framework supporting predefined data types, each data type having a predefined rule;
- receiving from an application a request for an object, the request indicating one of the multiple predefined data types, the object storing a value of the indicated data type, the value being stored in the object in a transfer format and in a process format, the process format being different from the transfer format;
- creating the object in response to the request;
- generating a markup language page that includes the value in the transfer format read from the object;
- sending a markup language page to a browser on a client;
- receiving a new value data in [[a]] the transfer format from the browser, ~~the browser having interpreted the markup language page and received the data in the page in the transfer format from a user;~~
- ~~transferring the data in the transfer format to an object on a server;~~
- storing in the object the new value data by the object in the transfer format, the object automatically; converting the new value data from the transfer format to [[a]] the process format by the object, the object storing the new value of the data attribute in the process format, the process format being different from the transfer format; the object automatically checking the compliance of the data new value in the process format with [[a]] the predefined rule by the object; and

if the data complies with the predefined rule, forwarding the ~~data~~new value in the process format ~~from the object by the object~~ to ~~[[an]]~~ the application and otherwise automatically resending the markup language page to the browser with the new value ~~data~~ in the transfer format, ~~wherein the application processes the data in the process format.~~

2. (Original) The product of claim 1, wherein the transfer format is a string format.
3. (Original) The product of claim 1, wherein the predefined rule is internal to the object.
4. (Original) The product of claim 1, wherein the predefined rule is external to the object.
5. (Original) The product of claim 1, wherein the operations further comprise storing state information in permanent memory and restoring the object by using the state information.
6. (Original) The product of claim 5, wherein restoring is delayed until transferring.
7. (Original) The product of claim 5, wherein storing state information in permanent memory is performed by storing in hidden input fields in the page.
8. (Previously Presented) The product of claim 1, wherein resending the markup language page to the client includes:

identifying a portion of the markup language page that has changed since the markup language page was previously sent; and

resending only the portion of the markup language page that has changed.

9. (Currently Amended) The product of claim 1, wherein the object is provided by ~~[[a]]~~ the software framework running on ~~[[the]]~~ a server; ~~the software framework being external to the application.~~
10. (Original) The product of claim 1, wherein the instructions do not need to be in a particular programming language.
11. (Original) The product of claim 1, wherein the operations do not require any particular flow logic.

12. (Original) The product of claim 1, wherein the operations do not assume a particular error handling scheme.

13. (Currently Amended) A method, comprising:

providing a server-side framework to an application, the server-side framework being external to the application, the framework supporting predefined data types, each data type having a predefined rule;

receiving from an application a request for an object, the request indicating one of the multiple predefined data types, the object storing a value of the indicated data type, the value being stored in the object in a transfer format and in a process format, the process format being different from the transfer format;

creating the object in response to the request;

generating a markup language page using that includes the value in the transfer format read from the object;

sending a markup language page to a browser on a client;

receiving a new value ~~data~~ in ~~[[a]] the~~ transfer format from the browser, ~~the browser having interpreted the markup language page and received the data in the page in the transfer format from a user;~~

~~transferring the data in the transfer format to an object on a server;~~

storing in the object the ~~data by the object~~ new value in the transfer format, the object automatically; converting the new value ~~data~~ from the transfer format to ~~[[a]] the~~ process format, ~~by the object, the process format being different from the transfer format;~~ the object automatically checking the compliance of the new value ~~data~~ in the process format with ~~[[a]] the~~ predefined rule ~~by the object;~~ and

if the data complies with the predefined rule, forwarding the ~~data~~ new value in the process format ~~[[by]] from~~ the object to ~~[[an]] the~~ application and otherwise automatically resending the markup language page to the browser with the ~~data~~ new value in the transfer format, ~~wherein the application processes the data in the process format.~~

14. (Previously Presented) The method of claim 13, wherein resending the markup language page to the client includes:

identifying a portion of the markup language page that has changed since the markup language page was previously sent; and
resending only the portion of the markup language page that has changed.

15. (Currently Amended) The method of claim 13, wherein the object is provided by [[a]] the software framework running on [[the]] a server; ~~the software framework being external to the application.~~

16. (Currently Amended) Apparatus, comprising:

means for providing a server-side framework to an application, the server-side framework being external to the application, the framework supporting predefined data types, each data type having a predefined rule;

means for receiving from an application a request for an object, the request indicating one of the multiple predefined data types, the object storing a value of the indicated data type, the value being stored in the object in a transfer format and in a process format, the process format being different from the transfer format;

means for creating the object in response to the request;

means for generating a markup language page ~~using~~ that includes the value in the transfer format read from the object;

means for sending a markup language page to a browser on a client;

means for receiving ~~data~~ a new data value in [[a]] the transfer format from the browser; ~~the browser having interpreted the markup language page and received the data in the page in the transfer format from a user;~~

~~means for transferring the data in the transfer format to an object on a server;~~

means for storing in the object the ~~data by the object~~ new value in the transfer format; ~~means for, the object automatically converting the data the new value from the transfer format to [[a]] the process format, by the object;~~ means for the object automatically checking the compliance of the ~~data~~ new value in the process format with [[a]] the predefined rule ~~by the~~

object; and

~~if the data complies with the predefined rule, means for forwarding the data-new value in the process format from the object by the object to [[an]] the application, if the data complies with the predefined rule, and otherwise automatically resending the markup language page to the browser with the data-new value in the transfer format, wherein the application processes the data in the process format.~~

17. (Previously Presented) The apparatus of claim 16, wherein the means for resending the markup language page to the client include:

means for identifying a portion of the markup language page that has changed since the markup language page was previously sent; and

means for resending only the portion of the markup language page that has changed.

18. (Currently Amended) The apparatus of claim 16, wherein the object is provided by [[a]] the software framework running on a [[the]] server; ~~the software framework being external to the application.~~